W. A. Justice
Asst. Prof. of Ed.
Cincinnati University,
Cincinnati, Ohio

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Educational Research Bulletin

OHIO'S SUPPORT OF HIGHER EDUCATION

JAMES L. LAPOE
Ohio State University

THIS paper reports a study which the writer made to determine Ohio's ability to support higher education as measured by her population and economic resources. The extent to which Ohio has recently supported her state universities is measured by her ability and her need and is compared with the efforts of a group of North Central States to which Ohio belongs. The plan of this study is somewhat like that followed in the recent survey of higher education in Indiana made under the direction of F. W. Reeves. The seven states considered here are Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. These seven states maintain thirteen state colleges and universities, exclusive of teacher-training institutions. Of these thirteen, three are located in Ohio. These are Ohio University, at Athens; Ohio State University, at Columbus; and Miami University, at Oxford.

In an effort to determine Ohio's ability to support higher education, a number of economic and social factors which may be regarded as indices of such ability were necessarily considered. These are listed under Table I. The percents found in Column 4 of this table show that Ohio's percents of the total ranged from 13 to 28, the majority being between 21 and 25 with an average of 22.4 percent for Ohio. Ohio's "standard of ability" is thus assumed to be 22.4 percent of the total for these seven states.

To determine impartially whether Ohio has met this standard a large number of other factors were considered. These are summarized in Tables II, IV, and V. The 1925-26 figures for these factors are given in Columns 2 and 3 of each table. Ohio's percents for these same factors for the period following the World War (1920-26) are found in Columns 5, 6, 7, and 8, while her average percents over this six-year period are in Column 9. The percents found in these four columns show that Ohio met her standard of ability in but one instance—state appropriations for the increase of plants.

Ohio has, since 1921, as Table II shows exceeded her standard in appropriations for increase of grounds, farms, and buildings of her state universities. But, even though she did exceed her standard in this respect, the valuation of the grounds, farms, and buildings of her three state universities averaged, during this six-year period, only 15 percent of the total for the thirteen state schools in these seven states (see Table V). In other words, her large percent of appropriations for capital outlay has not caused a correspondingly large percent with respect to valuation of her plants. This is evidently

for two reasons: first, Ohio's state universities have been inadequately provided with buildings and she has been making an effort to provide adequate housing for them; and second, the other six states have to be due, it may be added, to their having been underbuilt rather than to an effort to provide for a disproportionate increase in student attendance, for an inspection of her percents of the total number of

TABLE I

OHIO'S PERCENTS OF THE TOTALS FOR THE SEVEN NORTH CENTRAL STATES IN CERTAIN SOCIAL AND ECONOMIC FACTORS USED AS MEASURES OF ABILITY TO SUPPORT EDUCATION

Social and Economic Factors	Total Amounts for Seven North Central States	Total Amounts for Ohio	Ohio's Percent of Total
(1)	(2)	(3)	(4)
Population (Census Bureau estimates)*	29,282,234	6,600,000	22.6
Motor vehicle registrations, 1924	5,524,872	1,241,600	23.0
Number of telephones, 1922	4,651,225	962,837	20.9
Estimated tangible wealth, 1922	$87,882,614,000	$18,489,552,000	21.1
Estimated average annual total net income, 1919-21, inclusive†	19,327,504,000	4,245,504,000	21.9
Savings deposits in banks and trust companies, 1924	4,947,081,000	1,081,624,000	21.7
Ordinary and industrial life insurance in force, December 31, 1923	14,775,353,000	3,652,417,000	24.7
Average annual United States income tax paid, 1919-25, inclusive‡	610,166,000	153,699,000	25.2
Estimated value of all farm crops, 1925‡	2,694,000,000	337,000,000	12.5
Estimated value of animal products, 1925‡	2,461,000,000	341,000,000	13.9
Estimated value of mineral products, 1924‡	875,486,000	249,050,000	28.4
Estimated value added to products by manufacture, 1923	8,226,718,000	2,237,348,000	27.2
Estimated value of manufactured products	19,474,500,000	5,146,515,000	26.4
Estimated value of railroads and their equipment, 1922	3,989,211,000	1,009,197,000	25.3

*Unless otherwise stated, the data in this table have been taken from *Statistical Abstracts of the United States, 1924.*

†These data are taken from Leven, Maurice. *Income in the Various States: Its Source, and Distribution, 1919, 1920, and 1921.* New York, Bureau of Economic Research, Inc., 1925. 306 pp. (Publications, No. 7)

‡These figures are given in *World Almanac, 1927.*

likewise been adding to their similar facilities, although not to the extent that Ohio has, else her percents for increase of grounds, farms, and buildings would not be so high. The disproportionate percent of Ohio's appropriations for increase of plants seems students shows that her percent of the total enrollment of the thirteen institutions has increased but slightly.

The large percent of Ohio's appropriations going for increase of plants has had a serious effect on her appropriations for current expenses—the

total amount available for the operation of the plants. It seems that the total sum which was to be appropriated for increase of plants and for current expenses was limited to a certain amount, and, in the exigencies of the housing needs, current expenses had to suffer—and they did. We see that Ohio's appropriations for current expenses have ranged from 12 to 15 percent (see Columns 5 to 8, Table II). The total amount appropriated by the seven states for current expenses during these six years was the seven states (see Table II). The actual amount she gave her three universities for the years 1920-26 was $17,472,658. The total amount given the thirteen schools in these seven states during the same period was $112,933,507. Ohio's appropriations, therefore, were 15.5 percent of the latter amount, or 6.9 less than her standard of ability. This percent—15.5—is 72.4 percent of the standard of ability that has been proposed for Ohio. Ohio, therefore, during these six years, supported her three state

TABLE II

APPROPRIATIONS MADE BY SEVEN NORTH CENTRAL STATES FOR THE SUPPORT OF THEIR STATE COLLEGES AND UNIVERSITIES, 1920–26

PURPOSE OF APPROPRIATIONS*	TOTALS FOR SEVEN NORTH CENTRAL STATES 1925–26	TOTALS FOR OHIO 1925–26	OHIO'S PERCENT OF TOTALS	TRENDS: Ohio's Percent of the Totals 1920–26				OHIO'S AVERAGE PERCENT 1920–26
				1919–20	1921–22	1923–24	1925–26	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Receipts from the State for								
(a) Increase of plants....	$ 6,619,506	$1,972,385	30	10	29	22	30	24.9
(b) Current expenses.....	27,914,833	3,905,375	14	15	12	13	14	13.2
(c) Both (a) and (b)....	34,534,339	5,877,760	17	14	14	15	17	15.5
2. Percent that Item 1b is of Item 1c.....	80.8	66.4						

*United States Bureau of Education, *Biennial Survey;* editions for 1918–1920, 1920–1922, and 1922–1924. The data for 1925–26, not yet being in print, were supplied by the United States Bureau of Education upon request of the Bureau of Educational Research of Ohio State University.

$91,285,601; for the same purpose, Ohio gave $12,076,392, or 13.2 percent of the total—less than 60 percent of her standard. To have reached her standard—22.4 percent—her appropriations for current expenses should have been $20,447,975, or $8,371,583 more than her three schools receive. This is equivalent to an additional appropriation of approximately $1,400,000 a year during this period.

Furthermore, Ohio's total appropriations for both increase of plant and current expenses have ranged from 14 to 17 percent of the totals for universities less than three-fourths as well as her ability would warrant in comparison with the efforts made by the seven states in this group. The report of the survey of state institutions of higher learning in Indiana says that "Indiana is doing only about three-fourths as much as would be necessary to provide 10 percent [Indiana's standard] of the total for the seven states."[1] Since the same seven states have been used in both the Indiana and the Ohio studies, we

[1]Reeves, Floyd W., et al. *Report of a Survey of the State Institutions of Higher Learning in Indiana.* Indianapolis, Indiana, Board of Public Printing, 1926. p. 187.

thus have a figure which shows the comparative efforts of these two states to maintain state colleges and universities. To have reached her standard of 22.4 percent, Ohio's total appropriations should have been $25,297,106 instead of $17,472,658, or $7,824,448 more. This is equivalent to an additional appropriation of $1,304,075 a year during this six-year period.

The question, What were Ohio's appropriations per capita during this period, and how did they compare with those made by the seven states? is answered by the data found in Table III. An examination of this table shows that while Ohio's per capita appropriations for the maintenance of higher education increased, they averaged only about seven-tenths of that of the states as a group. While this relationship between the per capita effort in Ohio and in this group of states is significant, it would be still more significant if we could establish a relationship between per capita ability in each case and per capita effort. Regarding economic ability, the Indiana survey report states:

> The indices most frequently employed for the measurement of economic strength are wealth and income. Income is the best single measure of economic ability; however, wealth is an index of sufficient importance to warrant some consideration, as is indicated by the fact that the committee appointed by the National Tax Association to prepare a plan for a model system of state and local taxation accepted tangible property as one of the bases of its model plan for raising revenues in the state.[1]

The figures respecting per capita economic resources for the seven North Central States are as follows: estimated tangible wealth, $3,273; estimated annual *net* income, $698; savings deposits, $179; total, $4,150. The per capita appropriation for state colleges and universities made by the residents of these states was $1.012 (see Table III). Considering income as "the best single measure of economic ability," we find that their per capita appropriation was approximately one-seventh of one percent of their estimated annual *net* income. Similarly, the per capita economic resources of the residents of Ohio are: estimated tangible wealth, $3,048; estimated annual *net* income, $728; savings deposits, $173; total, $3,949. The per capita contribution of $0.701 made by the people of Ohio (see Table III) was slightly less than one-tenth of one percent, of their estimated annual net income. Since one-seventh of one percent is 1.43 times as large as one-tenth of one percent we can thus say that the individual's effort, considering the seven states as a group was 1.43 times the individual's effort in Ohio. On this basis, the average effort for each resident in Ohio should have been $0.963 instead of $0.701 in order to equal the average per capita effort in the seven states.

We have thus far seen that, on either of the two bases—aggregate economic resources and population or per capita tangible wealth, net income and savings deposits—Ohio's

TABLE III

TOTAL STATE APPROPRIATIONS PER CAPITA

Years	Seven States	Ohio	Ohio's Percent
(1)	(2)	(3)	(4)
1919-20.....	$0.655	$0.421	64.3
1921-22.....	0.987	0.641	64.9
1923-24.....	1.225	0.852	69.6
1925-26.....	1.179	0.891	75.6
Total.....	$4.046	$2.805	274.4
Averages.....	1.012	0.701	69.3

[1] Reeves, *op. cit.*, p. 29.

fiscal support of her three state universities has been far less, proportionately, than that of the seven North Central States taken as a group. A question naturally arises at this point concerning the effect of Ohio's relatively meager support. The percents shown in the ninth column of Tables IV and V partially answer this question. These percents have been derived by adding the amounts of each factor for each year both for Ohio and for the seven states, and then dividing Ohio's totals for each by the group's totals for that factor. They thus represent, in percents, the average effort during this six-year period.

We are now ready to see what light these percents cast on the answer to our question. The reader will here keep in mind Ohio's standard of ability—22.4 percent—which was set up in the first part of this paper. Examination of Column 9, Table IV, which gives the percentage averages for 1920-26, brings out the following facts: (1) Ohio's three state universities accommodated 16.2 percent of the students in attendance at the thirteen state colleges and universities which were maintained by these seven North Central States. (2) These students received 14.0 percent of the first degrees conferred; 10.6 percent of the graduate degrees conferred, and 8.9 percent of the Ph. D. degrees conferred.

The provision made by Ohio for the educational welfare of these

TABLE IV

INSTRUCTORS, STUDENTS, AND GRADUATES OF STATE COLLEGES AND UNIVERSITIES IN SEVEN NORTH CENTRAL STATES, 1920–26*

PERSONAL FACTORS	TOTALS FOR SEVEN NORTH CENTRAL STATES 1925–26	TOTALS FOR OHIO 1925–26	OHIO'S PERCENT OF TOTALS	TRENDS: Ohio's Percent of the Totals 1920–26				OHIO'S AVERAGE PERCENT 1920–26
				1919–20	1921–22	1923–24	1925–26	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Number of instructors	5,824	1,007	17	14	15	16	17	15.7
Number of students	74,507	12,645	17	15	16	18	17	16.2
Number of students per instructor	12.8	12.6						
Baccalaureate degrees conferred	11,437	1,832	16	12	15	14	16	14.0
Graduate degrees conferred	2,048	229	11	10	11	10	11	10.6
All degrees conferred	13,485	2,061	15	12	14	14	15	14.0
Ph. D. degrees conferred	330	31	9	7	7	11	9	8.9
Average number of Ph. D. degrees conferred by the state institutions in each state	47							
Median number of Ph. D. degrees conferred by the state institutions in each state	52							
Percent that graduate degrees are of all degrees	15.2	11.1						
Percent that Ph. D. degrees are of graduate degrees	16.1	13.5						
Percent that Ph. D. degrees are of all degrees	2.4	1.5						

*See footnote to Table II.

students is expressed in the following indexes:

	Percent Ohio's Total Is of the Combined Total
Instructors	15.7
Library volumes	12.5
Estimated value of libraries, scientific apparatus, equipment, etc	11.8
Estimated value of grounds and buildings	15.0
Estimated value of all university property	13.6
State appropriation for increase of plants	24.9
State appropriation for current expenses	13.2
Total appropriations for increase and current expenses	15.5

These percents are in striking contrast with Ohio's efforts to support elementary and secondary education. In 1923-24, the seven states supported education on these levels to the extent of $448,870,370. Ohio's share of this amount was $98,278,921, or 21.9 percent of the total. For the support of this type of education, therefore, Ohio practically met her standard of 22.4 percent which has been set up for her.

In the summary just given the number of library volumes is only 12.5 percent of the total, while the estimated value of libraries, scientific apparatus, machinery, and furniture is but 11.8 percent of the total. These two items strike at the heart of efficiency in educational work, especially on the collegiate level. Ohio's percent of degrees conferred—especially graduate degrees—is far below that of the seven states. The total number of Ph. D. degrees conferred by the state-supported universities in these seven states during this period was 844; Ohio's share of these degrees was 75, or only 8.9 percent (see Table IV). In 1925-26, Ohio State University—Ohio and Miami Universities do not confer this degree—reported that it had conferred 31 doctoral degrees, while the average number conferred by the institutions in each state in this group was 47, and the median number, 52. The greatest number of such degrees conferred by a single university in this group was 77—this number was reported by the University of Wisconsin.

If the number of students in attendance at Ohio's three state schools is used as the criterion of judgment instead of her population and economic resources, her support expressed in the percents given in Table IV is still inadequate. It has been shown that, on the average, during the years, 1920-26, her state universities accommodated 16.2 percent of the total number of students reported to have been in attendance at the thirteen state colleges and universities which are considered in this study. In but one of the eight items of the summary given—appropriations for increase of plants—has Ohio met this new standard of 16.2, and in that one, she has greatly exceeded this standard. In two other items, however, she closely approached it; these are: number of instructors (15.7 percent), and total appropriations (15.5 percent). To have reached the standard of 16.2, Ohio's additional appropriations for current expenses during this time would have had to total $2,711,875, or an average of $451,979 a year, more than they actually were. To have reached the same standard in her total appropriations, she would need to have given $822,570, or an average of $137,095 a year, more than she actually gave. And this standard, based as it is on student attendance, would provide for nothing more than maintaining a *status quo*, leaving no margin for a program of improvement or expansion.

In order to learn whether this apparent deficiency in the state's

fiscal support was supplied in other ways, other data were secured. These are found in Table VI, Column 9. That receipts from other sources of income did not compensate for the state's economy is evident. For example, the students attending Ohio's three universities paid for tuition and other educational services, exclusive of board and room rent, 11.0 percent of the total paid during these years by the students of all thirteen institutions. Incidentally, since 16.2 percent of the students attended Ohio's three schools, paying only 11.0 percent of the tuition, it would appear that, in comparison with the practices of neighboring states, Ohio has been rather reasonable in her tuition charges. Furthermore, Ohio's share of the receipts from productive funds was 10.7 percent of the total; her percent of the total receipts from the United States Government was 14.5; her share of the $4,542,884 contributed to the thirteen schools during this period through private benefactions was 5.4 percent; and, finally, her share of the total receipts from all sources other than state appropriations was but 11.5 percent of the total amount received by the thirteen institutions.

Apparently, from the preceding paragraph, the deficiency in state appropriations for state-supported higher education in Ohio during this six-year period was not supplied in other ways. Whether Ohio's students received more, or even as much, educationally, as did the students in the various colleges and universities maintained by these seven states is somewhat doubtful. Quantity is not always an index of quality. Economy in expenditure may partially compensate for smaller appropriations—where economy means wise spending—but it is risky to rely upon as a compensating factor.

That Ohio has failed to meet her standards of ability and need in providing for the maintenance of her three state universities has been indicated. Some of the results of this failure have likewise been pointed out.

TABLE V

EQUIPMENT PROVIDED BY SEVEN NORTH CENTRAL STATES FOR THEIR STATE COLLEGES AND UNIVERSITIES, 1920–26*

TYPE OF EQUIPMENT	TOTALS FOR SEVEN NORTH CENTRAL STATES 1925–26	TOTALS FOR OHIO 1925–26	OHIO'S PERCENT OF TOTALS	TRENDS: Ohio's Percent of the Totals 1920–26				OHIO'S AVERAGE PERCENT 1920–26
				1919–20	1921–22	1923–24	1925–26	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Number of bound volumes in libraries	2,311,959	409,961	12	14	10	14	12	12.5
2. Value of libraries, scientific apparatus, machinery, and furniture	$ 34,475,553	$ 3,671,037	11	14	13	11	11	11.8
3. Value of grounds, farms, and buildings	106,063,106	16,431,754	16	16	14	15	16	15.0
4. Total value of all property	140,538,659	20,102,791	14	15	14	14	14	14.2
5. Percent that Item 2 is of Item 4	24.5	18.3	.....	.....	.....	.....	.....	.....

*See footnote to Table II.

What wise university administration would have accomplished had Ohio given the additional $1,304,000 annually, as has been shown in this paper she could have given, cannot be precisely stated. Some things that might have been done are: (1) Liberal provisions could have been made for extension instruction throughout the state, such as Wisconsin has so well developed. (2) A training-school could have been established on the campus at Columbus which would have provided facilities for (a) observation and practice teaching for would be teachers; (b) the demonstration of progressive methods in public education; and (c) educational research. (3) A system of regional junior colleges, such as California has established, could have been inaugurated in the larger population centers of the state, which might have relieved the present undergraduate congestion, to say nothing of relieving parents of much of the additional expense and anxiety entailed by having their children away from home during the first two years of their college course. Other possibilities inherent in such an additional annual fund will occur to the reader.

The state's record of supporting higher education during the six years past has been analyzed and reviewed. The picture is not what it could have been when compared with the state's ability or the achievements of her neighbors, nor is it what the number of students in attendance would justly warrant. These institutions are still in existence and appropriations are still being made. Whether Ohio will meet her standards in the future is now unknown. But, if she is to keep pace with other near-by states, she should; if she is to keep faith with her youth, she must.

TABLE VI

INCOME OTHER THAN STATE APPROPRIATIONS RECEIVED BY THE STATE COLLEGES AND UNIVERSITIES OF SEVEN NORTH CENTRAL STATES, 1920–26*

SOURCES OF INCOME	TOTALS FOR SEVEN NORTH CENTRAL STATES 1925–26	TOTALS FOR OHIO 1925–26	OHIO'S PERCENT OF TOTALS	TRENDS: Ohio's Percent of the Totals 1920–26				OHIO'S AVERAGE PERCENT 1920–26
				1919–20	1921–22	1923–24	1925–26	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Receipts from students for tuition and other educational services (exclusive of board and room rent)	$ 6,820,612	$ 785,661	12	9	11	12	12	11.0
Receipts from productive funds	1,104,418	78,861	7	13	13	12	7	10.7
Receipts from the United States Government	2,135,547	281,362	13	15	16	15	13	14.5
Receipts from private benefactions	1,244,318	65,119	5	8	8	4	5	5.4
Receipts from other sources	11,243,900	1,472,440	13	9	14	12	13	12.1
Total receipts from all sources other than state appropriations	22,548,795	2,683,443	12	10	13	11	12	11.5

*See footnote to Table II.

RESEARCH IN EDUCATION

Scientific research as a means of ascertaining data by which to evaluate educational procedure has become so completely a part of our thinking that we often forget that it has not always been the accepted mode. Likewise, bureaus of educational research have come to be accepted as such a definite part of the administrative organization of our best school systems that again we tend to forget that they are of comparatively recent development. Dr. H. B. Chapman has rendered a distinct service to education by bringing together into organized form the story of the ideas and movements which resulted in the inception of this type of service.[1] It is especially fortunate that the history of the development of this work should have been written, while the attitudes and ideals that were potent forces in directing the work, as well as the struggles and discouragements which marked the experiences of those working in this field, are still vivid in the memories of the early leaders.

The educational research movement as evidenced in organized bureaus is wholly a product of the twentieth century. The earliest bureau, whether in city schools or higher institutions of learning, does not antedate 1900. Careful search reveals in other countries but little evidence of organized group research.

This monograph presents very briefly the early history of the bureaus—classified under the general types, such as city, college, and municipal bureaus—and the work of educational foundations and professional societies. Later he notes the personnel and financial support, the administrative and personal articulation of the bureaus with the larger organizations of which they form a part, the functions reported by the bureaus, and the techniques and results in certain functions. Each phase of the work has been well treated and whether one wishes to know the form of organization or the function of a bureau of educational research in one type of institution or another, the data are here given in surprising completeness. On the other hand, to one who has become intimately acquainted with the work in a bureau of educational research, it is evident that Dr. Chapman could not give the wealth of detail necessary to adequately portray the manifold problems that are undertaken and the questions with which they are confronted. In other words, while an excellent view of the work of a bureau as a whole is presented, those who are most familiar with such bureaus realize that much of the detail is necessarily lost in giving adequate perspective.

The author has confined himself almost wholly to a question of fact, giving the history of the early bureaus together with a picture of the *status quo* of the staff, organization, and function. The experience of the men who have given years to the work has been capitalized very little in pointing out what a bureau should be. Under the chapter on "Personal Articulation" causes of friction and suggestions for reducing friction are well presented.

One wishes that with the story of the past and general view of the present there could have been a bit more of intimate detail of one or two type organizations and a pooling of the judgment and experience of experienced directors on certain questions of policy and procedure.

E. J. A.

[1]Chapman, Harold Benjamin. *Organized Research in Education.* Columbus, Ohio State University Press, 1927. 221 pp. (Ohio State University Studies, Bureau of Educational Research Monograph, No. 7)

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B. R. BUCKINGHAM - - - - *Editor*
JOSEPHINE MACLATCHY - *Assistant Editor*

Address all communications to the
BUREAU OF EDUCATIONAL RESEARCH
Ohio State University, Columbus, Ohio

THE EIGHTH CONFERENCE

THE EIGHTH Annual Ohio State Educational Conference has passed into history. Three general sessions and thirty-two sectional meetings gave ample opportunity for nearly every phase of public education to be presented. These various programs included more than one hundred addresses by speakers from a dozen states and one foreign country.

While the central theme was "Teaching as a Fine Art," no program was necessarily limited to that topic; the scientific side of the teacher's work and the problems of administration and of supervision received much attention. The speakers presented their best thought, their results obtained from scientific investigations, their conclusions drawn from wide and accurate observation. The Conference was a school, a short course in education to which superintendents and principals, supervisors and teachers, business managers and school-board members came to gain knowledge and inspiration. They listened and interpreted what they heard in terms of their own school conditions; they asked questions and offered suggestions from their own thought and experience.

The value of such a Conference, however, must not be sought alone in the enjoyment of the hearers or their expressions of appreciation. The value must be sought in the schools and communities from whence they came. Increased knowledge, strengthened convictions, raised ideals and ambitions, kindled enthusiasms should all eventuate in a more enlightened public and in more efficient schools.

Some schools were dismissed in order that all the teachers might attend, and in these communities each child lost one school day. In other communities substitutes were used, or daily schedules were shifted in order that a part of the teaching force might come to the Conference. All such shifts meant temporary losses.

If such procedure is to be justified, such losses must be more than compensated—the children must actually gain. Succeeding days must be more fruitful than they would have been had this journey not been taken. This will be true wherever the teacher has returned with a new procedure better than her old; with a clearer vision of her task and a firmer determination to render greater service to her boys and girls. It will also be true wherever superintendent, principal, or supervisor has returned with added understanding of his problems and new ways of meeting them; with the lessons of this Conference, this school, so well learned that his practices are modified and methods of procedure made more efficient. It will likewise be true wherever those charged with the business management and the shaping of educational policy have returned with a bigger, better conception of the relation of the school to community life.

The executive committee of the Conference gave much time and thought to its organization; sectional chairmen worked faithfully on their separate parts. The whole was a result of a vast cooperative enterprise. Gratitude is felt by many visitors and has been freely expressed, but no one who had any part in the organization or direction of the Conference will be satisfied unless he can feel that the results reach the boys and girls in every community which was represented by those in attendance. The lay public which supports the schools should be given as complete a report as possible. The teachers who could not come should receive as much of the information and inspiration as those who attended can pass on to them. But most of all, the boys and girls should profit because of better teaching, better supervision, better administration. Unless this last result is accomplished, the Conference was not as complete a success as those who organized it hoped it would be. Perhaps this can never be fully known but each one who attended the Conference may well raise the question with himself.

E. J. A.

IN DEFENSE OF DAYTON'S CURRICULUM.[1]

In the January number of the EDUCATIONAL RESEARCH BULLETIN Dr. O. G. Brim, in an article entitled "Dayton's New Elementary Curriculum," has analyzed the revision of the *Dayton Course of Study*. While we value Dr. Brim's criticism, and especially appreciate his commendatory statements, nevertheless we feel that he—and if he, possibly others—has failed to get the point of view of the teachers of Dayton in the working out of their course of study. For that reason we feel that it might be worth while to set forth our educational philosophy and our method of work.

The *Dayton Course of Study* was worked out by the teachers of the fifth, sixth, seventh, and eighth grades, working with the supervisor of these grades. Whereas many cities, such as Los Angeles, Denver and St. Louis during their period of curriculum work called in highly paid specialists in subject-matter, psychology, and method, Dayton depended entirely upon its local corps of workers. With the exception of some clerical help, no one received extra compensation for this work. The cost to the Board of Education involved no expenditure except that of printing.

Unlike Cleveland, Detroit, and other cities, Dayton worked without a Bureau of Curriculum Research. In Cleveland, for instance, each of the six general supervisors served merely as members of a certain committee. The Bureau of Curriculum Research set up the objectives and assisted in working out the procedure. By the very nature of the Dayton organization, it is obvious that certain limitations were imposed. The work was considered only as a starting point, a basis for experimentation and further revision.

In spite of the fact that "Character building" has been characterized as one of those "vague, high-sounding hopes and aspirations to be avoided in setting up objectives," we have seen fit to choose this as our general objective, believing with Frederick Bonser that "educational value means value for making desirable differences in conduct."[2]

[1] This article is really a letter which was received by the Editor and is here quoted verbatim.

[2] Bonser, Frederick. *The Elementary-School Curriculum*. New York, Macmillan Company, 1924. p. 10.

Since we have tried to set up our specific objectives, particularly in the social studies, mathematics, and English, in harmony with this general objective, we feel that we are justified in using a term which some educators feel is too general for practical use. As for educational principles, a survey of the seven bulletins will establish the fact that we have attempted to set up a "habit curriculum" based on actual and vicarious experience. John Dewey defines the philosophy of education as the "theory of education as a deliberately conducted practice."[1]

As the Dayton teachers examined current courses of study throughout the country, they found that, with a few notable exceptions, courses of study by and large used much space, often many pages, in announcing certain high aims and educational principles; but that, in many cases, as curriculum-makers worked out the actual content of the curriculum, they forsook these lofty aims and principles and plunged into a logical outline of subject-matter which differed little from that of any traditional course of study, except that it was perhaps more simplified and more interesting.

It is against this tendency that the Dayton teachers worked, sincerely seeking to build up a curriculum based on educational philosophy of good authority and recognized modern principles of education, rather than seeking to state and discuss these principles. However, in many places throughout the course, we have attempted to state briefly our philosophy of education.

In *The Social Studies Bulletin* we have analyzed, diagramed, and illustrated the Dewey theory of growth. We have made also a comparison of the Dewey principle with those of other philosophers and psychologists.[2]

In the Foreword of the Extra-Socializing Bulletin we read:

> To the teacher or principal who is greatly concerned that life in the school shall be closely identified with life outside of the school; that pupils shall prepare for life by active participation in the affairs of life; that children shall not be thrown from an autocracy of school into a democracy of life, where failure is imminent—to these teachers and principals, the subject of extra-socializing activities looms large on the horizon of school administration.[3]

Throughout the course, in many places where we have refrained from stating our philosophy, we believe it is implied by the very nature of our procedure.

As to our psychology, we are followers of that psychology which advocates training for specific abilities rather than for general abilities. We do not, however, understand that in the difference between the doctrine of specific abilities and the doctrine of general abilities lies the difference between training and education. Neither do we believe that the doctrine of specific abilities forbids our arriving at general principles through specific concrete instances.

While the adherents of specific abilities believe with Thorndike that "any fact of intellect, character, or skill means a tendency to respond in a certain way to a certain situation"[4]; yet, they also believe that learning does take place by "response by analogy." Thorndike also says:

> The laws of instinct, exercise, and effect account for man's response to new as well as to previously learned experienced

[1] *Democracy and Education.* New York, Macmillan Company, 1924. p. 387.

[2] *The Social Studies.* Dayton, Ohio, Board of Education, 1927. p. 252. (Curriculum Bulletin, No. 5)

[3] *Extra-Socializing Activities.* Dayton, Ohio, Board of Education, 1927. (Curriculum Bulletin, No. 7)

[4] *Educational Psychology. Briefer Course.* New York, Teachers College, Columbia University, 1922. p. 1.

situations. To any new situation man responds as he would to some situation like it, or some element of it. In default of any bonds with itself, bonds that he has acquired with situations resembling it act.[1]

Our faith in this psychological principle is illustrated in our English work. Objectives have been set up for the teaching "eighteen different kinds of letters," yet we do not believe that this means establishing a "pattern response for each slightly different situation." It simply means an attempt to give children practice in responding to a variety of situations, to give them as much help as possible in making new connections, and in meeting new situations in which the learning process takes place. The greater the number of connections made, the greater the basis will be for making still others.

With these eighteen specific situations with their minor differences as a basis for work, the children are expected to discover the "guiding principles of letter writing"—those principles which are emphasized for the teacher's benefit in the introduction to letter writing.

We glean from this introduction and from the body of work the following principles:

CONTENT

1. A good letter is like good conversation.
2. It sounds like the person talking.
3. A good letter is usually about one subject.
4. It reveals the reflections and feelings of the writer upon a certain subject.
5. A good letter seldom indulges in widespread narrative covering many subjects.

METHOD

1. Every letter should be the result of a real need to write on the part of the child.
2. Teachers should refrain from having children write "pretend" letters.
3. Teachers should be alert to seize real occasions for letter writing, and also to create occasions for writing letters.
4. Much reading of classic letters within children's interests will lead to an appreciation of good letters.[2]

Because we believe that the educational value of any subject lies in its possibilities for making "desirable changes in conduct," we have tried to use the subject of mathematics to develop habits and attitudes as well as skills and knowledge in children. Although the work is divided into Part I, "Habits and Attitudes," and Part II, "Skills and Knowledge," the relation between the two is direct and is explained in the Foreword:

> The committee is asking that, as far as possible, Part I be used as a basis for Part II. But where new processes are needed to be taught for which Part I cannot be used, the committee asks that vital, interesting experiences of *others* be used as a starting point—experiences which will lead the child out into new fields of knowledge, and which will give him wider social relationships.[3]

In the work of the social studies, an attempt has been made to construct a course which would be in direct line with the ideals of the great peace movement of the world. Accordingly, the committee accepted the definition of social science as "the science of getting along with people."

With this idea in mind, they worked out a course based on three fundamental character traits—traits necessary to be established wherever peace is to be maintained, whether in the home, school, city, nation, or among the nations of the world. These fundamental traits are broad-mindedness, cooperation, and service.

We have frankly taken the position that the subject-matter of geography,

[1] *Ibid.* p. 148.

[2] *English Bulletin.* Dayton, Board of Education, 1927. p. 108. (Curriculum Bulletin, No. 1)

[3] *Mathematics.* Dayton, Ohio, Board of Education, 1927. p. 10. (Curriculum Bulletin, No. 6)

civics, and history shall be used for the purpose of developing these traits; that these subjects shall not be used merely for the acquisition of knowledge. That is, we believe, that geography, civics, and history have educational value only as they make desirable changes in conduct.

Nevertheless, it has been possible to weave about these habits or traits which we have used as a basis for our work, nearly all of the geography and history which were formerly taught. True, it is expected that many of the geographical processes which were formerly taught in an isolated way, and much of the history which was formerly a matter of information will be taught in connection with a central character problem.

It is then our hope that we may finally work out our course in the social studies in such a way that we may help children to an understanding of people, and also to an inculcation of such habits as will make for right economic conditions, which will, in turn, work toward an enduring peace.

JESSIE FRANCES FAIR
Supervisor of the Upper Elementary Department
Dayton Public Schools

A CONTROLLED EXPERIMENT TO DETERMINE THE ADVANTAGES OF HOMOGENEOUS GROUPING

R. O. BILLETT
Painesville, Ohio

(*Continued from the issue of April 18*)

THE THIRD YEAR'S EXPERIMENT

THE EXPERIMENT of the third year was conducted largely for the purpose of the verification of conclusions reached during the two previous years of testing. The basis of grouping was again, as in the first year, the intelligence quotient only which was derived from the Terman Group Test of Mental Ability. Five sections, three homogeneous and two heterogeneous, were again organized from among the 137 students included in the third-year group. The procedure of organizing the experiment was identical with the procedure of the first year.

The same tests were used as had been used during the second year. In addition to these tests two comprehensive, objective, final examinations were carefully prepared and administered, one at the end of the first semester and the other at the end of the second semester. The first final had a total possible score of 250 points. The second final had a total possible score of 150 points. These objective tests were prepared and administered in an effort to throw some light on the one remaining question raised as a result of the experiment of the first year, namely, "Would not informal objective examinations, carefully constructed, make a much better criterion for judging the relative progress of the groups than standardized tests?"

Table IX shows that the corresponding experimental groups, slow, average, and fast, are matched with practically the same average intelligence quotient. The difference of the mean gains of the homogeneous

and heterogeneous groups on each test is given in Table X, as well as the difference of the gains expressed in terms of the standard deviation of the test,[1] the probable error of the last-mentioned statistical measure, and the critical ratio.

By referring to Column 5 of the table one learns that the slow homogeneous group made larger gains in nine tests out of ten than the slow heterogeneous group did. These gains of the slow homogeneous group exceed the gains of the slow heterogeneous group by 3.28 standard-deviation units. Thus, part of the verdict of the first two years of experimenting is reiterated in more emphatic terms, that is, homogeneous grouping on the basis of the intelligence quotient is distinctly advantageous to slow pupils.

TABLE IX

INTELLIGENCE QUOTIENT RANGE AND AVERAGE INTELLIGENCE QUOTIENT OF THE VARIOUS GROUPS, 1926-27

Group	Number of Pupils	Intelligence Quotient Range	Average Intelligence Quotient
(1)	(2)	(3)	(4)
Slow homogeneous..	23	76- 95	87.0
Slow heterogeneous.	17	79- 95	88.3
Average homogeneous.....	25	96-106	101.5
Average heterogeneous.....	24	96-106	100.7
Fast homogeneous..	29	107-141	115.4
Fast heterogeneous..	19	107-135	115.8
Heterogeneous.....	31	83-126	101.5
Heterogeneous.....	29	79-135	102.1

Reference to the figures in this column creates a doubt as to whether homogeneous grouping has been of advantage to average pupils because in five tests out of ten the statistical measures listed favor the average heterogeneous pupils. The total advantage in favor of the average homogeneous pupils is 0.18 standard-deviation units. Therefore, another portion of the verdict of the experiment made during the first year is repeated, namely, homogeneous grouping on the basis of the intelligence quotient is of some advantage to average pupils.

The mean gains of the fast heterogeneous group expressed in terms of the standard deviations of the tests in question exceed those of the fast homogeneous group in seven tests out of ten tests. The total advantage for heterogeneous grouping of fast pupils is 0.38 standard-deviation units. This makes a complete verification of the conclusions reached after the first year of experimenting.

Now, it will be extremely interesting to see how the results of the objective examinations given each semester bear out the results just given from standardized tests. During the first year of the experiment it was surmised that an objective examination which only covered the ground common to all groups, might be a good measure of the efficacy of the grouping plan. Some interesting results from such examinations have been reported earlier in this discussion.[2]

Table XI gives a complete tabulation of the results of the first-semester final objective examination. In assigning marks of A, B, C, D, and E a normal distribution of 7 percent, 24 percent, 38 percent, 24 percent, and 7 percent was approximated.

Table XI shows that (1) only one pupil in the slow homogeneous group failed; (2) only two pupils, out of seventy-seven grouped homogeneously, failed—a failing rate of 3 percent; and (3) six pupils, out of sixty grouped heterogeneously, failed—a

[1] Billett, R. O. "A Controlled Experiment to Determine the Advantages of Homogeneous Grouping." *Educational Research Bulletin*, 7:139, April 4, 1928.

[2] Billett, *op. cit.*, p. 140.

TABLE X

RELIABILITY OF THE DIFFERENCES BETWEEN THE MEAN GAINS OF THE HOMOGENEOUS AND HETEROGENEOUS GROUPS

	MEAN GAIN*		DIFFERENCE OF MEAN GAINS	$\frac{M_1-M_2}{\sigma_t}$	PROBABLE ERROR	CRITICAL RATIO
	Homogeneous	Heterogeneous				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Briggs English Form Test:						
Slow	.04	— .76	.80	.21	.22	.966
Average	— .88	.92	—1.80	— .47	.19	—2.520
Fast	1.41	2.74	—1.33	— .35	.16	—2.244
Charters Language Test:						
Slow	1.35	—1.12	2.47	.54	.23	2.408
Average	1.80	1.88	— .08	— .02	.18	— .01
Fast	2.66	2.53	.13	.03	.18	.162
Charters Grammar:						
Slow	3.00	— .64	3.64	.50	.19	2.70
Average	4.64	4.21	.43	.06	.18	.335
Fast	4.62	5.69	—1.07	— .15	.14	—1.041
Inglis Vocabulary Test:						
Slow	.13	2.53	—2.40	— .13	.17	— .738
Average	8.08	5.50	2.58	.14	.14	1.011
Fast	5.52	9.00	—3.48	— .18	.20	— .93
Hudelson Composition Scale:						
Slow	1.67	1.13	.54	.39	.12	3.11
Average	1.88	1.37	.51	.36	.14	2.602
Fast	1.27	1.38	— .11	— .08	.16	— .494
Lewis Letter of Application:						
Slow	2.78	1.41	1.37	.14	.17	.856
Average	2.04	2.87	— .83	— .09	.17	— .503
Fast	6.17	2.52	3.65	.38	.19	2.025
Haggerty Reading Examination, Sigma 3:						
Slow	3.31	—3.47	6.78	.37	.19	1.901
Average	5.92	7.67	—1.75	— .09	.15	— .650
Fast	—2.62	7.26	—9.88	— .53	.14	—3.855
Abbott-Trabue Appreciation of Poetry:						
Slow	.82	.05	.77	.46	.21	2.185
Average	.92	1.34	— .42	— .25	.16	—1.602
Fast	1.86	.16	1.70	1.02	.21	4.758
Kirby Grammar Test (Sentences):						
Slow	.96	— .23	1.19	.28	.25	1.145
Average	.32	— .46	.78	.19	.15	1.267
Fast	— .41	.32	— .73	— .17	.15	—1.154
Kirby Grammar Test (Principles):						
Slow	5.91	2.47	3.44	.51	.24	2.185
Average	4.56	2.19	2.37	.35	.13	2.68
Fast	3.93	6.21	—2.28	— .34	.16	—2.113

* When the gain of the heterogeneous group is greater than the corresponding gain of the homogeneous group, it is preceded by a minus sign.

failing rate of 10 percent. The intelligence quotients of the six heterogeneous pupils who failed were 85, 89, 98, 95, 85, and 81. Surely this is another striking proof that slow pupils placed in heterogeneous groups are foredoomed to failure.

The records of the various groups on the second-semester final examination are shown in Table XII, from

these we find that not one pupil in a homogeneous group failed but that six pupils failed in the heterogeneous groups. The intelligence quotients of those who failed this test were 98, 85, 88, 89, 98, and 79. These figures show beyond any question that slow pupils placed in heterogeneous groups are likely to fail, while if arranged in homogeneous groups they are likely to pass.

received marks of A or B. (4) On the second final 25 percent of the heterogeneous received marks of A or B. (5) Therefore, both finals considered, the high marks of A or B were about equally distributed to homogeneous and heterogeneous pupils.

The average score, however, made by the fast heterogeneous pupils on the first-semester final was 30.14

TABLE XI

DISTRIBUTION OF SCORES MADE BY THE VARIOUS GROUPS ON UNIFORM OBJECTIVE FINAL EXAMINATION, FIRST SEMESTER, 1926–27

Scores	Hetero-geneous	Hetero-geneous	Fast Homo-geneous	Average Homo-geneous	Slow Homo-geneous	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Equivalent to mark A:						
240–49	.....	.....	1	.....	.....	1
230–39	.....	1	1	.....	.....	2
220–29	1	0	0	.....	.....	1
210–19	1	1	1	.....	.....	3
Equivalent to mark B:						
200–09	6	2	0	4	.....	12
190–99	1	3	4	3	1	12
180–89	4	0	2	2	0	8
Equivalent to mark C:						
170–79	1	2	1	5	4	13
160–69	3	2	5	2	2	14
150–59	3	1	5	5	0	14
140–49	1	3	4	0	2	10
130–39	2	4	2	1	2	11
Equivalent to mark D:						
120–29	1	6	2	1	5	15
110–19	1	3	0	0	3	7
100–09	0	1	1	1	3	6
Equivalent to mark E:						
90–99	0	1	.....	0	1	2
80–89	0	0	.....	1	.....	1
70–79	2	1	.....	.....	.....	3
60–69	2	.....	.....	.....	.....	2
Total	31	29	29	25	23	137

The case is also clear as to what happens at the upper end of the distribution. A study of Tables XI and XII yields the following facts: (1) On the first final examination 25 percent of the homogeneous pupils received marks of A or B. (2) On the first final 33.3 percent of the heterogeneous pupils received marks of A or B. (3) On the second final 34 percent of the homogeneous pupils

points in excess of the average score made by the fast homogeneous pupils; and on the second-semester final the fast heterogeneous pupils made an average score 4.2 points in excess of the average score made by the fast homogeneous pupils. These facts confirm the results of the standardized tests, namely, that there is a measurable advantage in heterogeneous grouping for bright pupils.

The results of the objective tests strikingly bear out the conclusions already reached concerning the average and slow groups. These results show that the average score of the average homogeneous group exceeded the average score of the average heterogeneous group on the first final by 20.25 points and on the second final by 18.15 points. The average score of the slow homogeneous group also exceeded the average score of the slow heterogeneous group on the first final by 20.85 points and on the second final by 9.76 points. This completes the objective evidence after three years of experimenting on the problem of homogeneous grouping.

GENERAL CONCLUSIONS

1. Teachers' ratings or teachers' marks should never be used *in toto* or in part as a basis for homogeneous grouping for the purpose of promoting the educational development of pupils, because such ratings or marks are largely measures of qualities which education seeks to change.
2. Homogeneous grouping for the purposes of education should be based on traits not subject to change through education, such as the intelligence quotient, the probable learning rate, or the index of brightness.
3. Grouping on the basis of the intelligence quotient has shown a marked measurable advantage for slow pupils, some measurable advantage for average pupils, and a slight measurable disadvantage for bright pupils.
4. The slight measurable loss to bright pupils because of homogeneous grouping is far outweighed by the measurable advantages which seem to affect the records of the slow and average pupils.

SUBJECTIVE OBSERVATIONS AND CONCLUSIONS

One of the most interesting results of the experiment in homogeneous grouping is the indisputable conclusion that the advantages of homogeneous grouping, as carried out in this experiment, decrease as the intelligence quotient increases. The reasons given in explanation of this circumstance must be subjective. To be brief, in the opinion of the writer, the bright pupils grouped heterogeneously somewhat excelled the bright pupils grouped homogeneously because the educational activity of the heterogeneous class was confined largely to the bright pupils.

A visit to the heterogeneous classes gave one an entirely different impression from that received from a visit to any other class. There was always a certain restlessness in the heterogeneous class not found in homogeneous classes. Volunteer recitations were confined to a few in the class, and those few were the brighter ones. The slow pupils who were called upon for a recitation were reticent. If they ventured an answer, it was without assurance. The brighter members were unintentionally discourteous at such times, laughing at real or fancied errors in these replies. This is not a criticism of the teacher's method of handling the class. In the opinion of the writer most heterogeneous classes answer this description exactly. No teacher can teach at one and the same time all the ranges found in the usual heterogeneous class. It would be just as possible to occupy three classrooms at one time. What bright students may devise while dullards are being drilled is not always conducive to the order of the class or the reputation of the teacher. The

teacher instinctively follows the first law of nature and adapts the course to those geared to the highest speed. One of the most frequent criticisms which supervisors make of good teachers is something like this, "There was not enough pupil activity in your class. Only a few students were called upon, and these again and again. Too many pupils failed to participate in the classroom discussion." Therefore, is it not reasonable to assume that the few bright pupils of the heterogeneous class, receiving most of the attention of the teacher, should absorb somewhat more of the subject-matter of the course than would be the case if the entire class were composed of pupils of high ability each receiving his proportionate share of the teacher's time? But, while the bright pupil in the heterogeneous class may gain somewhat in subject-matter, he loses a chance to develop many traits[1] which will be worth more to him in the future than any trifling superiority in the mastery of the text. It is conceivable that the pupil-activity of a heterogeneous class might be limited to the slow or to the average pupils. But this study indicates that any gain made by the favored group would be far more than equalled by the loss of the other two groups.

TABLE XII

DISTRIBUTION OF SCORES MADE BY THE VARIOUS GROUPS ON UNIFORM OBJECTIVE EXAMINATION, SECOND-SEMESTER FINAL, 1926–27

(Total possible number of points, 150)

Scores	Hetero-geneous	Hetero-geneous	Fast Homo-geneous	Average Homo-geneous	Slow Homo-geneous	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Equivalent to mark A:						
140–49						
130–39	1		2			3
120–29	1	2	2	2		7
Equivalent to mark B:						
110–19	1	4	6	2		13
100–09	3	3	5	7		18
Equivalent to mark C:						
90–99	5	4	5	5	2	21
80–89	4	7	8	6	8	33
Equivalent to mark D:						
70–79	6	2	0	2	3	13
60–69	3	2	0	0	5	10
50–59	4	2	1	1	5	13
Equivalent to mark E:						
40–49	2	1				3
30–39	0	1				1
20–29	0	1				1
10–19	1					1
Total	31	29	29	25	23	137

This study indicates that a proper attention to the homogeneous grouping of slow students in large schools would reduce the failing rate practically to zero. One can only conjecture the great financial saving which would result if failure were entirely eliminated. This study also shows that many slow pupils would remain

[1] Billett, R. O. "Differentiation of Freshman English for Groups of Different Abilities," *Educational Research Bulletin*, 5:185–90, April 28, 1926.

in school to finish their secondary education if the work could be adapted to their ability.

Homogeneous grouping, however, can never be the complete answer to the problem of individual differences, because it cannot be practiced effectively in small schools. During this study the work in formal grammar was individualized.[1] It is the opinion of the writer that in some similar procedure lies the solution of the problem of individual differences in all subjects. However, it must be borne in mind (1) that homogeneous grouping is practicable now in the larger schools, whereas individualized instruction must wait on proper texts, and (2) homogeneous grouping is a desirable feature of a plan of individualized instruction because it is best that no pupil in a given group should have a working rate exceedingly greater than the average of his class. Also, the type of work or curriculum should undoubtedly be varied for the groups of varied abilities.

In the light of this study the writer would make the following recommendations for caring for individual differences:

1. Classify pupils on the basis of previous educational experience, development, and mastery of facts. This may be done by a battery of educational tests. It is assumed to be done through the present system of grades.
2. Regroup the pupils on the basis of unchangeable qualities which affect or determine what the probable learning rate of the pupil will be when he has been properly motivated.
3. Place all work on an individual basis through definite assignments of a problem nature, self-corrective practice and drill where needed, and objective testing of results, allowing the pupils to advance as they master each essential.

[1] Billett, *op. cit.*

EDUCATIONAL READINGS

ALEXANDER, CARTER. *Research in Educational Publicity*, *TCR*, 29:479–85, March, 1928.

School publicity, properly planned and executed, is considered an important factor in building up and holding the public support of the educational system. Dr. Alexander proposes research studies concerning agencies and media to be used in a publicity program and various checks on the results in order to measure the effectiveness of the program.

MCCULLOUGH, ASHLEY MELVIN. *The Opportunities of Pupils to Participate in the Teacher's Time*, *ESJ*, 28:538–43, March, 1928.

It is usually assumed that teachers give a majority of their time to dull pupils. This study of seventy-five classrooms in six cities found the reverse to be true. The brightest children received the most amount of time, the next brightest the next, and so down to the dullest pupils who received about half as much of the teacher's time as did the brightest. The author feels that teachers can distribute their time better if the problem is approached in terms of the need in a particular subject rather than in terms of the intelligence of the pupils.

WEERSING, FREDERICK J. *The Non-vocational Values of Commercial Education*, *SR*, 36:216–26, March, 1928.

Mr. Weersing's discussion of the non-vocational values of commercial education may be adequately summarized by quoting the final paragraph of his article: "The large percentage of pupils who take commercial work for other than vocational

NOTE.—The abbreviations used in this number are: *TCR*, Teachers College Record; *ESJ*, Elementary School Journal; *SR*, School Review; and *EAS*, Educational Administration and Supervision.

reasons suggests the need of more definite provision for general business training on the senior high-school level, useful for all pupils irrespective of future vocation. The study indicates that typewriting, elements of accounting, and general business information, including fundamental principles of business organization, business law, etc., are the subjects that pupils find most useful. On the other hand, it seems clear that commercial geography, business English, penmanship, and even commercial arithmetic have only small general value and did not meet the need of general business training for the group here studied."

LANCASTER, THOMAS J. *A Study of the Voluntary Reading of Pupils in Grades IV-VIII, ESJ*, 28:525–37, March, 1928.

The author found that 98 percent of the books voluntarily read were prose, that girls read more than boys, that general fiction is the commonest type of book read, that 13 percent of the books read were not secured from the library, and that seventh- and eighth-grade children finish a larger percentage of books which they begin than do the lower grade children. Slow readers begin as many books as do rapid readers but finish fewer of them.

SMITH, Q. M. *Do Graduates of Teachers Colleges Return Service to the Communities from Which They Come? EAS*, 14:189–93, March, 1928.

One-half of the three thousand students doing two or more years of work in teacher-training institutions were found to come from within a radius of fifty miles of these institutions and to be teaching within the same radius after leaving college. This study of eight teacher-training institutions located in three states shows clearly the local character of both the sources and products of these colleges.

HARDY, RUTH GILLETTE. *A Plan for the Reclassification of the Teaching Force in the City of New York, EAS*, 14:145–64, March, 1928.

One is impressed by the enormous and complicated problem of the selection of teachers in the New York school system and by the analytical ability of the writer in this article. The author sets up a plan for simplifying and improving the examination for, and selection of, teachers in the New York school system. She points out that at present there are more than two hundred different types of licenses issued for teaching in these schools. She would reduce this number materially and include in the list of those who are promoted on examination the principals of senior and junior high and continuation schools, directors of special subjects, principals of training schools and district superintendents.

IN PAPER COVERS

The College of Tomorrow: Its Relation to the High School and to Life. Washington, National Education Association, 1928. 24 pp.

The Research Division of the National Education Association has prepared an annotated bibliography of one hundred articles dealing with some phase of the numerous high-school and college problems. Some of these articles are based on extensive research, some summarize opinions, while others merely express the author's judgment. As would be expected, the views found are many and varied.

UNITED STATES BUREAU OF EDUCATION, DEPARTMENT OF INTERIOR. "Bibliography of Current Research Studies in Education." Washington, United States Bureau of Education, 1928. 80 pages. (Advance mimeographed copy)

The United States Bureau of Education sent letters to all of the institutions and agencies in the United States known to engage in educational research requesting reports on studies completed during 1926-27 and in progress during 1927-28. More or less complete data were received in response to these letters on 762 educational research studies.

These studies are alphabetized by authors in this bibliography. There are forty main subject headings which have further subdivisions of forty-three headings. Among these are Administration and Organization, Curriculum, Supervision, Tests and Measurements, and Vocational Education. For each study there is given the author, the problem, the purpose, and the institution or agency where the study is made. Brief annotations are also given, for a large number of the studies.

The purpose of such a bibliography is well expressed in one of the introductory statements. This is: "It is hoped that the information here presented will be of service in stimulating cooperation in educational research and will aid in

avoiding useless reduplication of effort on identical or overlapping topics."

The Bureau intends to issue later a similar bibliography in printed form. This will give descriptions and abstracts of educational research studies completed during the year ended June 30, 1927.

DOUGLASS, HARL R. *The Experimental Comparison of the Relative Effectiveness of Two Sequences in Supervised Study.* Eugene, Oregon, University of Oregon, 1927. 48 pp. (Education Series, Vol. 1, No. 4)

This experiment was set up in order to learn which of two uses of class time in the high school—study followed by recitation or recitation followed by study—is the better. Ten pairs of experimental sections, including pupils in Grades VII through XII, in the University of Oregon High School, were used in the experiment. The sections enrolled from twelve to sixteen pupils each. The author's chief conclusions are (1) Considering all classes and types of work, neither of the two methods is more effective than the other; and (2) for classes in history, social science, and literature—especially in grades above the eighth—the S-R sequence is the more effective, while for classes in mathematics and science, the R-S sequence seems to be preferable.

NEW TESTS

The Bureau of Educational Research of the Philadelphia schools has developed English tests for use in Grades V, VI, and VII. The tests are in two parts, Part I including tests in punctuation, correct usage, sentence sense, subject, and predicate. Adjective, adverb, preposition, and conjunction tests are included in Part II. No data concerning reliability, validity, or norms are given on the sample sets received.

The Sloyer Test in World History, published by the Palmer Company, Boston, is a fact test covering the entire field of world history. The first part of the test takes up the period previous to Greek and Roman history and is a matching test. The second part is a completion test calling for some four hundred facts that pupils presumably should learn in a course in world history. There are no statements concerning its reliability and validity, and no norms are given in the specimen set reviewed.

The Pribble-McCrory Diagnostic Tests in Practical English Grammar are designed for use in high schools and colleges. They consist of seven parts, each covering a phase of grammatical usage. The first four parts are concerned with the parts of speech; Part V, with miscellaneous constructions; Part VI, with sentence recognition; and Part VII, with redundancy. Tentative norms are given. The tests are published by Lyons and Carnahan.

The New York Latin Achievement Tests have just been published by the World Book Company. These tests were developed in the New York State Department of Education and were first used in the schools of that state. The bulletin which gives the results of the first application of the tests was reviewed in this Bulletin for January 25.

There are two forms of each of two tests, one for the first half year and the other for the first year of Latin. Thirteen parts comprise the test for the first half year. Three are vocabulary tests; one is a test on syllabication and accentuation; four are tests on forms; one is on syntactical analysis of an English passage and another one on derivation; and three are on translation. The entire test requires eighty minutes for administration. Medians and quartiles are given for the entire test and for the individual tests. The manual of directions does not include data on the validity or reliability of these tests.